# *ABBREVIATED PRELIMINARY ASSESMENT*

# *OCHOCO MINE*

Ochoco National Forest
Crook County, OR

November 2004

## TABLE OF CONTENTS

page



## APPENDICES

## EXECUTIVE SUMMARY

The Forest Service performed an Abbreviated Preliminary Assessment for the Ochoco Mine (Site) to determine the need for further site characterization. The Site is located approximately 28 aerial miles east of Prineville, Oregon. The Site is situated on steep side slopes. The Site consists of an adit and waste rock dump, which is situated on a riparian area for the Ochoco Creek

A Niton XRF unit was used for In Situ field screening of material from the waste rock and tailings. Water and sediment samples were not collected as part of this investigation.

Several chemical elements exceeded either State or Federal regulations or guidelines (Appendix A). The elements of concern are arsenic (125 mg/kg), nickel (57,600 mg/kg), and iron (111,923 mg/kg), which exceed EPA Region IX Preliminary Remediation Goals (PRG) as to acceptable industrial levels in soil.

It is recommended that a Site Inspection (SI) be performed because of the concentrations of various elements as noted and the fact the waste rock material is adjacent to Ochoco Creek.

## 1.0 INTRODUCTION

An Abbreviated Preliminary Assessment (APA) was performed by the US Forest Service in accordance with the EPA "Guidance for Performing Preliminary Assessments Under CERCLA", EPA "Improving Site Assessment: Abbreviated Preliminary Assessments" of 1999, the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the Superfund Amendments and Reauthorization Act (SARA) of 1986, and the National Contingency Plan as outlined in 40 CFR Parts 300.410(c)(1)(i-v).

The assessment was conducted to determine whether or not there is a potential for a release of contaminants to the environment and/or to human health. The purpose of an APA is to determine whether further site characterization is warranted. A Niton XRF 700 Series was utilized to help in the preliminary screening of this Site.

## 2.0 SITE DESCRIPTION, OPERATIONAL HISTORY, AND WASTE CHARACTERISTICS

The Ochoco Mine (Site) is located approximately 28 aerial miles east of Prineville, OR at an elevation of 4600 feet above mean sea level (MSL). The Site is approximately 5 miles northeast of the junction of County Roads 22 and 42, and is situated adjacent to Ochoco Creek. The Site is on National Forest System lands and is administered and managed by the Ochoco National Forest. The Site is located within the Howard Mining District.

Location information:

| | |
|---|---|
| Lat./Long.: | 44° 25' 38"N 120° 21' 44"W |
| Legal: | Willamette Meridian, T13S, R20E, S20 |
| USGS quadrangle: | Ochoco Butte |

The Site consists of an open adit and waste-rock dump of approximately 600cy.

There is no information available as to production, etc., from the mine.

Currently, the Site is inactive.

## 3.0 SITE SAMPLING AND TEST RESULTS

A Niton XRF, XL-722S was used to assess the material from the waste rock dump and tailings for potential contamination. In Situ testing was performed on the Site per EPA Method 6200. Surface soils were removed to approximately 4 to 6 inches below grade in order to get below highly oxidized surface layers. Rocks, debris and other deleterious materials were removed. The soil was worked to gain a flat surface area on which to set the Niton.

Refer to Appendix A for a listing of elements that were detected as well as those that exceeded regulatory requirements.

## 4.0 SUMMARY

The constituents of concern that exceeded EPA Region IX industrial levels in waste rock and tailings were arsenic, iron, and nickel. However, the nickel reading is suspect. Appendix A shows all Niton testing results along with associated State and Federal regulations and guidelines for all elements detected.

The Site poses a physical hazard to the general public recreating at the Site in that the adit is accessible.

## 5.0 RECOMMENDATION

Based on the In Situ screening of the waste rock and tailings with the Niton XRF unit, physical hazards associated with the Site, and EPA's APA Checklist (Appendix B), it is recommended that a Site Inspection (SI) be completed. A more thorough search of the area is required over that done during the site reconnaissance performed for the APA. As part of this inspection, a thorough study of the area to determine the extent of disturbance and contamination is warranted. The area should be sampled to determine the presence of all waste material and tailings, and if present, the potential waste rock and tailings should be sampled at depth and a determination of volumes should be calculated. Acid base accounting (ABA) is required if waste material is present besides what had been observed during this assessment.

Appendix C contains photos of the Site.

## 6.0 DISCLAIMER

This abandoned mine/mill site was created under the General Mining Law of 1872 and is located solely on National Forest System (NFS) lands administered by the USDA Forest Service. The United States has taken the position and courts have held that the United States is not liable as an "owner" under CERCLA Section 107 for mine contamination left behind on NFS lands by miners operating under the 1872 Mining Law. Therefore, USDA Forest Service believes that this site should not be considered a "federal facility" within the meaning of CERCLA Section 120 and should not be listed on the Federal Agency Hazardous Waste Compliance Docket. Instead, this site should be included on EPA's CERCLIS database. Consistent with the June 24, 2003 OECA/FFEO "Policy on Listing Mixed Ownership Mine or Mill Sites Created as a Result of the General Mining Law of 1872 on the Federal Agency Hazardous Waste Compliance Docket," we respectfully request that the EPA Regional Docket Coordinator consult with the Forest Service and EPA Headquarters before making a determination to include this site on the Federal Agency Hazardous Waste Compliance Docket.

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## REFERENCES

Webber, Bert, 1995, *Gold Mining in Oregon,* Webb Research Group Publishers. (160 p)

Brooks, Howard C., Ramp, Len; 1968; Gold and Silver in Oregon; Oregon Department of Geology and Mineral Industries; Bulletin 61

# Appendix A

# NITON ANALYTICAL RESULTS

| SAMPLE LOCATION | TEST RESULTS Element | mg/kg | STATE GUIDELINES Receptor | mg/kg | EPA Standard | mg/kg |
|---|---|---|---|---|---|---|
| | | | | | | |
| Waste Rock - Top | Arsenic | 125 | Plants | 8.0 | Industrial | 1.6 |
| Sample ID # 19 - Niton | Iron | 111,923 | Plants | 10.0 | Industrial | 20,000 |
| | Nickel | 49,690 | Plants | 30.0 | Industrial | 100,000 |
| | | | | | | |
| Waste Rock - Side | Arsenic | 75 | Plants | 8.0 | Industrial | 1.6 |
| Sample ID # 22 - Niton | Iron | 95,590 | Plants | 10.0 | Industrial | 100,000 |
| | Nickel | 57,600 | Plants | 30.0 | Industrial | 20,000 |
| | | | | | | |
| Material Underneath Waste | Arsenic | 103 | Plants | 8.0 | Industrial | 1.6 |
| Rock. Sample ID# 44 - Niton | Iron | 56,166 | Plants | 10.0 | Industrial | 100,000 |
| | Nickel | 23,590 | Plants | 30.0 | Industrial | 20,000 |
| | | | | | | |

Note: All elements that were detected by the Niton have been displayed in the above chart.

# Appendix B

# ABBREVIATED PRELIMINARY ASSESSMENT CHECKLIST

## ABBREVIATED PRELIMINARY ASSESSMENT CHECKLIST

This checklist can be used to help the site investigator determine if an Abbreviated Preliminary Assessment (APA) is warranted. This checklist should document the rationale for the decision on whether further steps in the site assessment process are required under CERCLA. Use additional sheets, if necessary.

**Checklist Preparer:**


Dennis Boles, Environmental Engineer — June 2004
(Name/Title) (Date)

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(Address) (Phone)

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(E-Mail Address)


**Site Name:** Ochoco mine

**Previous Names (if any):**

**Site Location:** The Site is located approximately 28 aerial miles east of Prineville, OR.

**Legal Description:** Willamette Meridian, T13S, R20E, S20

Latitude: N44° 25' 38" Longitude: W120° 21' 44"

**Describe the release (or potential release) and its probable nature:** Metals of concern detected in the waste rock were: Arsenic (125 mg/kg), nickel (57,600 mg/kg), and iron (111,923 mg/kg), which exceed EPA Region IX PRGs for industrial soils.

**Part 1 - Superfund Eligibility Evaluation**

| If All answers are "no" go on to Part 2, otherwise proceed to Part 3 | YES | NO |
|---|---|---|
| 1. Is the site currently in CERCLIS or an "alias" of another site? | | X |
| 2. Is the site being addressed by some other remedial program (Federal, State, or Tribal)? | | X |
| 3. Are the hazardous substances potentially released at the site regulated under a statutory exclusion (i.e., petroleum, natural gas, natural gas liquids, synthetic gas usable for fuel, normal application of fertilizer, release located in a workplace, naturally occurring, or regulated by the NRC, UMTRCA, or OSHA)? | | X |
| 4. Are the hazardous substances potentially released at the site excluded by policy considerations (i.e., deferred to RCRA corrective action)? | | X |
| 5. Is there sufficient documentation to demonstrate that no potential for a release that could cause adverse environmental or human health impacts exist (i.e., comprehensive remedial investigation equivalent data showing no release above ARAR's, completed removal action, documentation showing that no hazardous substance release have occurred, or an EPA approved risk assessment completed)? | | X |

**Please explain all "yes" answer(s). _____**

**Part 2 - Initial Site Evaluation**

For Part 2, if information is not available to make a "yes" or "no" response, further investigation may be needed. In these cases, determine whether an APA is appropriate. Exhibit 1 parallels the questions in Part 2. Use Exhibit 1 to make decisions in Part 3.

| **If the answer is "no" to any questions 1, 2, or 3, proceed directly to Part 3.** | **YES** | **NO** |
|---|---|---|
| 1. Does the site have a release or a potential to release? | X | |
| 2. Does the site have uncontained sources containing CERCLA eligible substances? | X | |
| 3. Does the site have documented on-site, adjacent, or nearby targets? | X | |

| **If the answers to questions 1, 2, and 3 above were all "yes" then answer the questions below before proceeding to Part 3.** | **YES** | **NO** |
|---|---|---|
| 4. Does documentation indicate that a target (i.e., drinking water wells, drinking surface water intakes, etc.) has been exposed to a hazardous substance released from the site? | | X |
| 5. Is there an apparent release at the site with no documentation of exposed targets, but there are targets on site or immediately adjacent to the site? | X | |
| 6. Is there an apparent release and no documented on-site targets or targets immediately adjacent to the site, but there are nearby targets (i.e., targets within 1 mile)? | X | |
| 7. Is there no indication of a hazardous substance release, and there are uncontained sources containing CERCLA hazardous substances, but there is a potential to release with targets present on site or in proximity to the site? | X | |

**Notes:**

## EXHIBIT 1
## SITE ASSESSMENT DECISION GUIDELINES FOR A SITE

Exhibit 1 identifies different types of site information and provides some possible recommendations for further site assessment activities based on that information. You will use Exhibit 1 in determining the need for further action at the site, based on the answers to the questions in Part 2. Please use your professional judgment when evaluating a site. Your judgment may be different from the general recommendations for a site given below.

| Suspected/Documented Site Conditions | | APA | FULL PA | PA/SI | SI |
|---|---|---|---|---|---|
| 1. There are no releases or potential to release. | | Yes | No | No | **No** |
| 2. No uncontained sources with CERCLA-eligible substances are present on site. | | Yes | No | No | **No** |
| 3. There are no on-site, adjacent, or nearby targets | | Yes | No | No | **No** |
| 4. There is documentation indicating that a target (i.e., drinking water wells, drinking surface water intakes, etc.) has been exposed to a hazardous substance released from the site | Option 1: APA SI | Yes | No | No | Yes |
| | Option 2: PA/SI | No | No | Yes | **No** |
| 5. There is an apparent release at the site with no documentation of exposed targets, but there are targets on site or immediately adjacent to the site. | Option 1: APA SI | Yes | No | No | **Yes** |
| | Option 2: PA/SI | No | No | Yes | N/A |
| 6. There is an apparent release and no documented on-site targets and no documented immediately adjacent to the site, but there are nearby targets. Nearby targets are those targets that are located within 1 mile of the site and have a relatively high likelihood of exposure to a hazardous substance migrating from the site. | | No | Yes | No | **No** |
| 7. There is no indication of a hazardous substance release, and there are uncontained sources containing CERCLA hazardous substances, but there is a potential to release with targets present on site or in proximity to the site. | | No | Yes | No | **No** |

**Part 3 - EPA Site Assessment Decision**

When completing Part 3, use Part 2 and Exhibit 1 to select the appropriate decision. For example, if the answer to question 1 in Part 2 was "no," then an APA may be performed and the "NFRAP" box below should be checked. Additionally, if the answer to question 4 in Part 2 is "yes," then you have two options (as indicated in Exhibit 1): Option 1 -- conduct an APA and check the "Lower Priority SI" or "Higher Priority SI" box below; or Option 2 -- proceed with a combined PA/SI assessment.

**Check the box that applies based on the conclusions of the APA:**

( ) NFRAP
(X) Higher Priority SI
( ) Lower Priority SI
( ) Defer to RCRA Subtitle C
( ) Defer to NRC
( ) Refer to Removal Program – further site assessment needed
( ) Refer to Removal Program – NFRAP
( ) Site is being addressed as part of another CERCLIS site
( ) Other: _____

Regional EPA Reviewer: N/A _____ _____
Print Name/Signature Date

PLEASE EXPLAIN THE RATIONALE FOR YOUR DECISION:

# Appendix C

# SITE PHOTOS

Photo 1. Waste Rock Material under Andesite Rocky Material Niton Sample ID# 44. Arsenic 103 mg/kg; Nickel 23,590 mg/kg (Photo by Boles)

Photo 2. Waste Rock Material along Ochoco Creek. .(photo by Boles)

Photo 3. Waste Rock Pile. Ochoco Creek is within willows in foreground. (photo by Boles)

Photo 4. Shot Inside of Adit, Taken at Portal Entrance. (photo by Boles)

Photo 5. Partially Collapsed Portal. (photo by Boles)